APPENDIX A

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 12,054

WAYNE KNITTING MILLS AND
THE MAY CORPORATION, Appellees
versus
RUSSELL HOSIERY MILLS, INC., Appellant

Appeal from the United States District Court for the Middle District of North Carolina, at Rockingham.

EUGENE A. GORDON, *District Judge.*

(Argued April 2, 1968 Decided September 10, 1968)

Before SOBELOFF, BOREMAN and WINTER,
Circuit Judges.

Thomas B. Van Poole (Charles R. Fenwick, and Mason, Fenwick & Lawrence; Welch Jordan, and Jordan, Wright, Henson & Nichols on brief) for Appellant, and David H. Semmes and Joseph W. Grier, Jr. (Charles B. Park, III, on brief) for Appellees.

WINTER, *Circuit Judge:*

Before us for determination are the questions of the validity of Claim 3 of Sarbo United States Patent No.

3,059,458, issued October 23, 1962, and whether certain of defendant's hosiery products infringe. The patent concerns knitted foot covers designed to be worn as a liner in shoes of various styles instead of stockings or conventional socks. The district court declared Claim 3 of the patent valid and infringed.[1] *For failure to distinguish the prior art—and hence for overclaiming—and for failure to comply with 35 U.S.C. §112 we find the patent invalid, and reverse.*

The claim in suit reads:

> "3. A knitted foot cover comprising a seamless tubular rim including at least some rubber threads,
> said rim being adapted to form an opening for a foot entry,
> a seamless tubular body having an axial length greater than that of said rim and connected with said rim,
> said rim and said body, each, respectively, consisting of the same knitting structure throughout its entire axial length and throughout its entire periphery and
> a seam formed at the end of said body opposite said rim, to form a symmetrical pouch-like body, and
> said body being adapted to function as tip, sole and heel portions of said foot cover."

"Foot cover" is not defined in the specifications; neither is it defined in the claim, except as a definition may be inferred from the language employed. A drawing (Figure 5) accompanying the specifications depicts "a foot cover forming an end product of the method of the invention," as one of several "[I]llustrative embodiments of undersocks or foot covers made according to the invention," and the drawing shows a foot cover on a human foot with the rim at all places below the ankle, barely covering the toes, partially covering the heel and between them dipping almost to the sole. The claim, the specifications and the drawing are not otherwise specific as to the degree of coverage of any part of the foot below the ankle.

[1] 274 F. S. 934 (M.D. N.C. 1967). The district court also reserved the fixing of damages, if any, for infringement, and denied attorney's fees and dismissed the action as to an individual defendant. No appeal from these rulings has been taken. In pretrial proceedings, plaintiffs withdrew any claim for unfair competition.

The patent was the result of the activities of Edgar G. Sarbo in Vienna, Austria, which culminated in 1958. Prior to then, shoe-top-length foot socks adapted for wear with low cut shoes were available in at least two forms: (a) a type, known as "Peds" and "Footlets" made from flat knitted fabric cut from such fabric and sewn into the desired shape with a sewn-in elastic rim around the foot entry opening, and (b) a sock, such as previously manufactured by defendant, which was knitted as a conventional sock with a very short top and with reciprocatorily knitted heel and toe pockets (a time-consuming process), the knitted fabric being then cut down at the top and instep and provided with a sewn-in elastic rim around the foot entry opening. These known types were comparatively expensive to manufacture because of the labor required for cutting and sewing and because of the time required for reciprocatory knitting. Additionally, they were uncomfortable because the heavy band or rim of elastic around the foot opening tended to burrow into the foot of the wearer as a result of pressure from the shoe.

Sarbo, a manufacturer of conventional socks, became aware of the deficiencies of available shoe-top-length foot socks as a result of a customer's inquiry. Sarbo's mill did not engage in cutting and sewing operations. Ultimately, he developed a shoe-top-length sock which could be produced entirely by knitting and without need for cutting or sewing. On November 19, 1958, Sarbo filed for letters patent in Austria. On November 13, 1959, Sarbo filed a corresponding patent application in the United States,[2] which matured into the patent in suit.[3] Plaintiff, Wayne Knitting Mills, Inc., is

[2] By the Convention of the Union of Paris of March 20, 1883, ratified by the United States as of May 30, 1887, Sarbo, as a foreign resident, who sought a United States patent within one year after his Austrian filing, is afforded the benefit of his patent application filing date in his home country.

[3] In addition to Austria and the United States, Sarbo also was granted letters patent by Argentina, Belgium, Canada, Denmark, Finland, France, Germany, Great Britain, Greece, Italy, Luxemburg, Norway, Spain, Sweden and Switzerland. In addition to the United States, Sarbo has licensed his patent rights in Germany, Spain and Switzerland.

the ultimate assignee of the Sarbo patent.

Unaware of the Sarbo development, plaintiff, The May Corporation, principally through its Charlie T. Smith, an employee of May's research and development department, began work on an improved shoe-top-length sock in 1949. A ten-year interruption then ensued because May was busily occupied in national defense work. In 1959, Smith resumed his efforts and, by 1962, he developed the "extended gore sock." This style, however, did not fit low enough on the foot for wear with slipper-type shoes, and it required reciprocatory knitting to shape it. Smith's efforts continued and, in 1963, independently and without knowledge of Sarbo's patent, Smith hit upon the Sarbo concept.

When May began to manufacture the Smith sock, it was confronted with the Sarbo patent by Sarbo's then licensee. May then purchased the Sarbo patent. From September, 1963, to the date of trial, May had manufactured and sold over 5,300,000 pairs of Sarbo socks and thus had captured a significant segment of the prior shoe-top-length sock market.

In 1964, defendant, after seeing a Sarbo sock, began the manufacture of one of its styles of socks accused of infringement. After formal notice of infringement, defendant introduced two other styles, one which has never been commercially produced, and the other which is also accused of infringement.

The patent is a combination patent. Concededly, each of the elements of the combination was well known in the industry and had been disclosed in patents predating Sarbo.[4]

[4] For example: (a) knitted foot covers made from symmetrically knit straight seamless tubes were disclosed by 1923 Teichmann British Patent No. 184,470; 1922 Teichmann German Patent No. 362,040; 1923 Teichmann Swiss Patent No. 102,524; 1929 Teichmann U. S. Patent No. 1,724,784; 1932 Bellak U. S. Patent No. 1,841,518; 1944 Grey U. S. Patent No. 2,333,373; 1944 Herbert U. S. Patent No. 2,344,773, and 1946 Herbert U.S. Patent No. 2,400,692; (b) fabrication of the top or rim of tubular foot covers to cause them to hug or cling to the foot was taught by Teichmann British (a cord or lacing device), Bellak U. S. (plain stitch or laced-in elastic), and Grey U. S. and Herbert U. S. (knitted welts or double thickness fabric); (c) 1941 St. Pierre U. S. Patent No. 2,246,079 taught the use of laid-in rubber threads in the rims of various seamless circular knit socks and stockings.

Plaintiffs, nevertheless, claim that in combination, laid-in-rubber in the rim of the Sarbo sock performs a new function, i.e., the rubber threads serve to conform the rim of the below-shoe-top-length sock to the irregular configuration of the foot (as opposed to *the circular configuration* of the leg or ankle) and hold the body of the sock in tensioned condition below the instep and on the toe, sole and heel of the foot. This function, so the argument runs, is different from the function of rubber-top in above-the-shoe socks wherein the rubber-top exerts an inward force in the cylindrical leg to prevent the top from sliding down, or in below-the-ankle socks, when the rim is below the ankle but still around the cylindrical leg to prevent the rim from sliding down. Essentially adopting this argument, the district judge remarked that "[T]here is no evidence that laid-in rubber or elastic yarn previously served the function of holding in place a sock located below the ankle and entirely within the shoe." (274 F. S. at 940.) The district judge's ultimate conclusion was expressed:

> "It is apparent that those skilled in the art, probably due to the irregular configuration of the foot as compared with the uniform configuration of the ankle and leg members, could not accept or grasp the idea that rubber or elastic yarn could be laid in with proper tension to keep a below the ankle length sock on the foot. * * * The combination of Claim 3 of the patent in suit teaches a new and useful result, that is, the old elements could be joined to make a shoe-top-length sock that would stay up on the irregular contours of the foot and could be comparatively cheaply manufactured." (274 F. S. at 941).

From plaintiffs' argument and the district judge's conclusion, it is apparent that the lower location where the laid-in rubber rim serves its function is critical to the validity of Sarbo Claim 3, both as to inobviousness and new function. Yet, the exact location of the rim is not identified anywhere in the claim. At most, the claim implies a location below the ankle, but plaintiffs and the court below predicate the valid-

ity of the claim, not on the entire area below the ankle, but on the undetermined location below the ankle where the ankle ceases to resemble the cylindrical conformation of the leg and exhibits the irregular configuration of the foot.[5] Specifically, Sarbo Claim 3 gives no particularity as to the part or shape of the foot or leg portion the rim contracts against, or where it is located relative to the instep. While this claim recites that the body does function as "tip, sole and heel portions" of the foot cover, absent is any language to exclude the body from also covering part of the instep, the ankle or parts of the foot in the area below the ankle.

Lacking language disclosing how the patented device should be constructed so as to position the elasticized rim below the ankle in the place where it can perform its theretofore undiscovered—and hence new and novel—function, the claim, in our view, is invalid, because it is so broad that it claims as invention that which plantiffs concede was not new. Stated otherwise, by the breadth of the claim that which is conceded to have been known in the prior art—that which the prior art anticipated or made obvious—is included within the claimed invention; hence, the clam is invalid for overclaiming. *Schriber-Sibroth Co.* v. *Cleveland Trust Co.*, 305 U. S. 47 (1938). See also, *Heyl & Patterson, Incorporated* v. *McDowell Company*, 317 F.2d 719 (4 Cir. 1963). And the drawings cannot properly be referred to for the purpose of narrowing the claim. *Binks Mfg. Co.* v. *Ransburg Electro-Coating Corp.*, 281 F.2d 252, 256 (7 Cir. 1960). *Cf. Wilcox Manufacturing Co.* v. *Eastern Gas & Fuel Associates*, 400 F.2d 960 (4 Cir., Decided Sept., 1968).

It follows, also, that by failure to specify the critical location of the laid-in-rubber rim the claim of the patent is in-

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[5] Should Sarbo or his counsel have had difficulty in articulating more narrowly what he conceived to be his invention, they might have sought guidance from 1944 and 1946 Herbert U. S. Patents Nos. 2,344,773 and 2,400,692 which recite "A slipper type foot covering of such height as to be completely concealed from view when worn within an outer pump or other such lower cut shoe * * *."

valid for failure to satisfy 35 U.S.C. § 112.[6] The mandate for a particular and distinct claim of the subject matter constituting the invention was not satisfied. *Wilcox Manufacturing Co.* v. *Eastern Gas & Fuel Associates*, 400 F.2d 960:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.
>
> The specification shall conclude with one or more claims *particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*" (emphasis supplied)
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> * * * * *

supra; Triumph Hosiery Mills, Inc. v. *Alamance Industries*, 299 F.2d 793 (4 Cir. 1962.)[7]

REVERSED.

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[6] In pertinent part, the statute reads:
"§ 112. Specification

[7] As pointed out in *Corning Glass Works* v. *Anchor Hocking Glass Corp.*, 374 F.2d 473, 477 (3 Cir. 1967) "Section 112, 35 U.S.C.A. is designed to protect the patentee and encourage experimentation in the area not covered by the patent." In the *Triumph Hosiery Mills* case, we said, in regard to a patent which overclaimed and which we held violated, *inter alia*, § 112:

"The uncertainties and confusion arising from such a patent would be intolerable. Infringement would be difficult to judge, for just when the patentees' manufacture was within or without the patent would not be readily apparent to a competitor. The patent would seem to embrace a therapeutic unplied monofilament torque nylon stocking with a compression even below the minimum pressures givn in some of the claims and in the first table of the specifications. For a surety, it encompasses without ceiling all of this type of stocking having a compressiveness above these measurements. The result would be to discourage a competitor, through fear of suit, to put on the market any such stocking with a plurality of ends, whatever its compression. A vast and unwarranted field is thus usurped by the patent.

"This expanse of monopoly, with the *interrorem* effect upon competitors already mentioned, does not 'promote the Progress of Science and useful Arts'." 299 F.2d 793.

APPENDIX B

IN THE UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT

Appeal No. 12,054

WAYNE KNITTING MILLS AND
THE MAY CORPORATION, Plaintiffs-Appellees

vs.

RUSSELL HOSIERY MILLS, INC., Defendant-Appellant

JUDGMENT

Appeal from the United States District Court for the Middle District of North Carolina.

THIS CAUSE came on to be heard on the record from the United States District Court for the Middle District of North Carolina at Rockingham and was argued by counsel.

ON CONSIDERATION WHEREOF, It is now here ordered and adjudged by this Court that the Judgment of the said District Court appealed from, in this cause, be, and the same is hereby remanded to the United States District Court for the Middle District of North Carolina of Rockinham, for further proceedings consistent with the opinion of this Court filed herein.

September 10, 1968

s/Samuel W. Phillips, Clerk

APPENDIX C

Oct. 23, 1962 E. G. SARBO 3,059,458

FOOT COVE. AND METHOD OF MANUFACTURING THE SAME

Filed Nov. 12, 1959 2 Sheets-Sheet 1

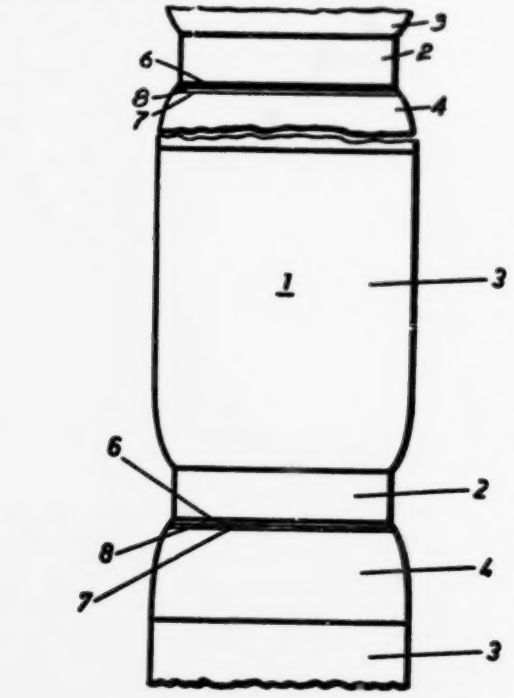

FIG. 1

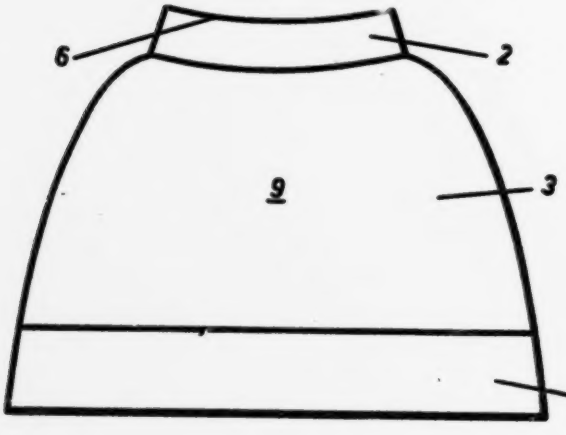

FIG. 2

Oct. 23, 1962 E. G. SARBO 3,059,458

FOOT COVER AND METHOD OF MANUFACTURING THE SAME

Filed Nov. 12, 1959 2 Sheets-Sheet 2

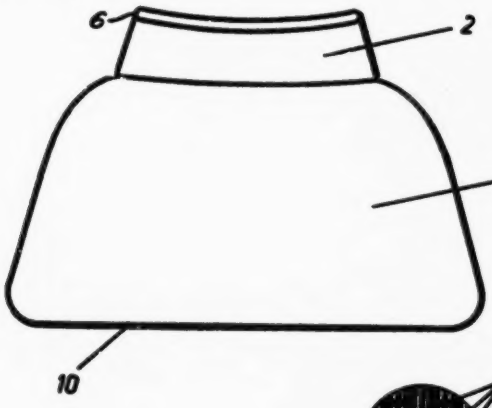

FIG. 3

FIG. 4a

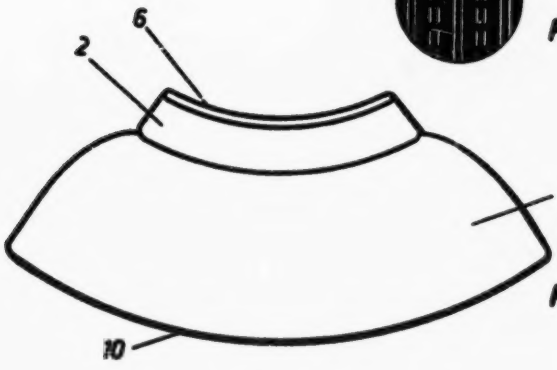

FIG. 4

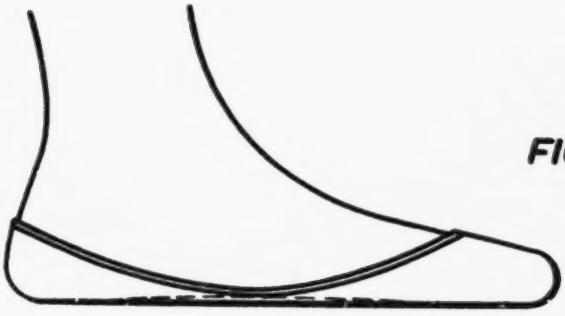

FIG. 5

United States Patent Office
3,059,458

Patented Oct. 23, 1962

3,059,458

FOOT COVER AND METHOD OF MANUFACTURING THE SAME

Edgar Gary Sarbo, Vienna, Austria, assignor to Bruder Sarbo, Vienna, Austria

Filed Nov. 12, 1959, Ser. No. 852,442
Claims priority, application Austria Nov. 19, 1958
3 claims. (Cl. 66—171)

This invention relates to undersocks or foot covers and to methods of manufacturing the same.

Undersocks or foot covers are conventionally made from woven fabric blanks and sometimes from knitted semi-finished products of composite constructions which have a number of seams whereby, for example, the front top part of the foot cover is connected to the base thereof and the latter is joined at its rear edge. Known methods of manufacture thus involve certain surplus steps and cost particularly for sewing, and the finished article generally has pronounced seams and requires sewn-in rubber elements in the form of a tape.

It is an object of the invention to provide an improved method of manufacturing undersocks or foot covers. In one respect, methods of the invention are characterized in that a seamless tube is formed which consists of a continuous sequence of tubular elements each of which corresponds to an undersock or foot cover and each of which consists essentially of a rim having an integrated rubber thread and a body. Surplus courses followed by separating courses are

interposed between the individual tube elements so that the individual tube elements can be separated, the courses being concatenated and then closed off or hemmed so that each foot cover is finished at its lower end by a seam of relatively high stretchability.

Such undersocks or foot covers may be manufactured most advantageously by the use of mass production techniques at relatively low cost. They have no seam other than the highly stretchable almost imperceptible seam indicated above. The upper rim of the product is very flat and has an excellent elasticity.

Illustrative embodiments of undersocks or foot covers made according to the invention will next be described and are diagrammatically illustrated in the accompanying drawing in which:

FIG. 1 shows a portion of a continuous seamless hose including elements of an article of manufacture provided in accordance with the invention;

FIG. 2 illustrates a semi-finished foot cover;

FIGS. 3 and 4 each show a finished foot cover;

FIG. 4*a* illustrates a detail in enlarged scale; and

FIG. 5 shows a foot cover forming an end product of the method of the invention.

In the drawing, seamless tube **1** consists of periodically recurring hose elements each of which corresponds to one foot cover. Each hose element consists essentially of three sections, namely a rim **2**, a body **3** and a surplus course **4**. The seamless tube **1** may be made on a conventional machine and suitable for this purpose woud be, for example, a single-roller, double-roller or circular knitting machine the operation of which requires only a special setting of a conventional control drum or the like. During the knitting of the rim **2**, a rubber thread **5** is incorporated or inserted in the yarn by means of a conventional rubber feeding device as is known for hosiery machines. This rubber thread is inserted in the manner of a woven fabric (FIG. 4*a*) such that the rubber thread lies substantially along the periphery of

the rim and transversely of the knitting direction. The rubber thread can be wound with the same tension as the other threads, so that when the tube is withdrawn from the machine, the resilience of the rubber thread causes reduction in the diameter of the rim portion **2** as seen in FIG. 2. Rim **2** in the illustrated embodiment has a length of about 1 cm. At the transition from the rim **2** to the body **3**, the rubber thread is omitted and knitting of the hose is continued. The length of this body depends on the material used and may be, for example, about 4-6 cms. After the body **3** has been formed in the desired length, the knitting yarn for the foot cover is suitably replaced by a cheaper yarn with which the knitting is continued, for example, for about 2 centimeters to form surplus courses **4**. These surplus courses **4** are followed by separating courses **7** (and, if desired, break threads **8**) to define the limit of an individual hose element which will be subsequently used to make a foot cover. This is followed by the starting edge for a new element.

The seamless tube **1**, which is collected, for example, in a container, may comprise any desired number of hose elements and is removed from the machine after a predetermined number of hose elements such as, perhaps, one hundred, have been completed. Then the hose elements can be manually separated from the seamless tube to obtain the semi-finished foot covers **9**, one of which is shown in FIG. 2. The separation is effected by cutting the hose at the separating courses and pulling out the separating thread. The top part of the foot cover terminated with the starting rim **6** is now finished. Next the semi-finished foot cover **9** must be closed at its lower end spaced from the rim **2**. For this reason it is cast onto needles at the surplus courses **4** on a circular or flat linking machine of known type. This machine suitably cuts off the surplus courses **4**, brushes off the cut surface and closes off the course applied to said needles. By this seam **10** (closing seam, machine seam or the like), the foot cover is finished at its lower end and assumes a form which is pocket or bag-like.

The material for the parts 2 and 3 of the hose elements may consist of stretch yarn, crimped yarn, or cotton or wool yarn and the like. FIG 3 shows the shape of a foot cover made from cotton whereas FIG. 4 shows a foot cover made from crimped yarn. Mixed crimped and ply yarns or any other known combination of yarns may be used. The use of crimped yarn has the advantage that the foot cover can be manufactured in uniform size for all foot sizes. Since the surplus courses 4 are cut off, they are preferably made from cheap material such as cotton.

The seamless hose is conventionally knitted so as to be extremely elastic and extensible because the diameter of the tube 1 is preferably matched to that of the lower calf of the leg whereas the end product, which is the finished foot cover, must accommodate the size of the foot. The desired result thus can be achieved only with a very high stretchability and elasticity which insures at the same time a good hugging of the foot by the foot cover.

FIG. 5 shows a foot cover in use. The rubber threads 5 incorporated in the rim 2 avoid local constriction as would result from the use of a rubber tape. This is favored by the fact that the rim of the foot cover according to the invention in relatively wide without being thick. The single seam 10 integrates with the knit courses and does not protrude when the foot cover is worn. It is also highly stretchable as is particularly important in the use of the cover and the stretchability of the foot cover is not adversely affected by this seam.

Compared to the foot covers made according to known processes, the foot covers made by the method of the invention can be manufactured efficiently and at low cost. Further, they insure a good fit with a soft, resilient pressure. Owing to the method of manufacture from a seamless hose, as has been described hereinbefore, they completely avoid irritating the foot.

What is claimed is:

1. A method of manufacturing a plurality of foot covers

consisting of a continuous sequence of tubular hose elements, comprising the steps of

knitting continuously a seamless tubular hose,
forming alternately during said knitting step three distinct symmetrical portions, first, a rim including rubber threads, second, a body and third, surplus courses between the end of said body and the start of the next rim, each of said three distinct portions, respectively, being of the same knitting structure throughout its entire length and throughout its entire periphery,
cutting of said surplus courses, and
forming a stretchable seam at the end of said body opposite said rim entirely across said tubular hose.

2. A knitted tubular hose for the manufacture of a plurality of foot covers, including
a seamless tube comprised alternately of a rim and of a body of greater axial length than said rim,
said rim including at least some rubber threads,
said rim and said body, each, respectively, consisting of the same knitting structure throughout its axial length and throughout its entire periphery, and
a surplus course disposed between said rim and the body adjacent thereto, a transverse seam formed at the end of said body opposite said rim and a break thread disposed between said rim and the surplus course adjacent thereto.

3. A knitted foot cover comprising
a seamless tubular rim including at least some rubber threads,
said rim being adapted to form an opening for a foot entry,
a seamless tubular body having an axial length greater than that of said rim and connected with said rim,
said rim and said body, each, respectively, consisting of the same knitting structure throughout its entire axial length and throughout its entire periphery, and
a seam formed at the end of said body opposite said rim,
to form a symmetrical pouch-like body, and
said body being adapted to function as tip, sole and heel portions of said foot cover.

References Cited in the file of this patent

UNITED STATES PATENTS

2,035,384	Hinchliff	Mar. 24, 1936
2,246,079	St. Pierre	June 17, 1941
2,333,373	Grey	Nov. 2, 1943
2,739,467	Stern	Mar. 27, 1956
2,881,603	Vendetti	Apr. 14, 1959
2,896,339	Rabinowitz	July 28, 1959